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Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve Medical Officers now on active duty who desire to submit requests for extension of active duty at their present stations for a period of three months or more will be given favorable consideration. BuPers Instruction 1926.1B applies.

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Medical Care for Dependents

The following information was abstracted from the statement of Vice Admiral J. L. Holloway Jr., USN, Chief of Naval Personnel, to the House Armed Services Committee, on the Bill H. R. 7994, "to provide medical care for dependents of members of the Armed Forces."

"For nearly one hundred years, the Navy has assumed the responsibility and moral obligation for giving necessary medical care whenever possible to the wives and children of its officers and enlisted personnel. This has been done by utilizing Navy medical officers and facilities on an availability basis, with due regard, of course, for the primary mission of maintaining the health and effectiveness of naval personnel. Hospitalization and care of dependents in naval hospitals and infirmaries has been specifically authorized by law for naval dependents since 1943. It was emphasized that the medical care of dependents in the Navy should not be considered a welfare program with the connotation usually associated with that term. Dependent medical care is a military necessity—a just cost against national defense

in connection with a situation unique to Service personnel who in the most significant and majority of instances concerned are devoting the major portion of their lives to the service of their country. Special problems are involved. The necessary and comparatively frequent movement of Servicemen and their families to meet the needs of the Service; the great concentration of Service personnel dependents at Fleet Pivot and Deployment Points, which represent numbers often far beyond the capacity of the local medical economy; the fact that dependent medical care is part of the remuneration and privilege established by the Congress, specifically in the case of the Navy—Public Law 51 enacted in 1943—the fact that it is a Service to which naval personnel and their families look hopefully for one of the most vital protections and alleviations available to mankind.

This long-standing and worthy tradition of the Navy caring for its own has served three very significant and essential purposes.

First, it has been a major factor in maintaining good morale and effectiveness of naval personnel. The Navy feels a strong obligation to its family men that, regardless of their duty requirements, their location, or their income, every possible effort will be made to provide their wives and children with necessary medical care. This assurance certainly has contributed greatly to the peace of mind, the well being, and the devotion to duty of all ranks and ratings, in war and peace.

Second, the care of dependents is an important factor in maintaining the professional skill and versatility of medical officers. If they were restricted in their practice to the care of relatively healthy servicemen, their medical capabilities would be narrowed and reduced. The Navy Medical Corps has produced many outstanding and exceptionally able doctors, some of whom have been, and are today, among the very finest in the medical profession. This would hardly have been possible without their having bene fited through the broad medical experience provided by dependent care. The other side of this picture is that if the care of dependents were to be removed entirely, then few, if any, competent doctors would be at all interested in medical careers in the Navy.

Third, the care of dependents makes for more efficient utilization of doctors and medical facilities than would otherwise be on a standby for emergency and not used to saturation from time to time. More than ever before, medical readiness has become a critical element in over all military planning, and it requires that military medical facilities be kept on a flexible basis, ready for immediate emergencies while at the same time capable of rapid and large scale expansion.

Well meaning efforts to solve the current dependent care problem have produced one particular concept that is viewed with apprehension because it is both fallacious and dangerous. Under this concept, dependent care is held to be an unnecessary and unwarranted burden upon military medical facilities. By transferring such care entirely to civilian medical

facilities, it is argued that large reductions could be made in present requirements for military doctors and facilities. To adopt any such short-sighted perilous concept would wreck the regular Medical Corps and reduce the entire military medical structure to a point of grave inadequacy.

Until the advent of World War II, the problem of furnishing care of dependents was comparatively easy. The Navy was relatively small in size and its world-wide commitments were restricted. Operating schedules and foreign assignments were such that naval personnel were seldom separated from their families for long periods. This fact caused most of the families to remain near the operating ports with ready access to naval doctors. Then too, a larger proportion of naval personnel were unmarried, with the result that the ratio of dependents was considerably smaller than is the case today. Since 1950, when it became necessary to draft doctors, the medical officer ratio has been steadily reduced. While the immediate purpose of this lowered ratio is to reduce the draft calls on doctors, it is having another unanticipated effect. The resulting shortage of military doctors is causing too heavy a workload. This, combined with certain other factors, is making it increasingly difficult to retain medical officers on a career basis. This, if continued, will perpetuate, rather than reduce, the doctors' draft. Even more alarming, it is constantly lowering the medical experience and specialty level.

Nearly all doctors participate to some degree in dependent care; but their primary task remains that of caring for naval personnel. As already pointed out, the care of dependents makes them better doctors—so much so that if it were to be entirely removed, few if any competent doctors would choose to remain in service, then the grim and intolerable situation of a medical corps consisting of unwilling conscripts fresh out of medical school, serving only short periods of obligated service, would have to be faced.

The care of dependents is very definitely not an unnecessary burden that should be removed entirely from military medical facilities. On the contrary, the continuation of such care is absolutely essential to the professional competence of military doctors and the maintenance of medical readiness.

At the same time, however, it must be recognized that the magnitude and complexities of the dependent care problem have grown to the point where the present program should be supplemented and improved. This can be done by augmenting the existing military medical facilities or by authorizing the use of civilian facilities. It is believed that a proper combination of both will be necessary to arrive at the optimum solution of the problem. In authorizing and financing the use of civilian medical facilities, those Service families who are situated where adequate military care is not available, will benefit. However, the authorization of the use of civilian facilities will certainly not guarantee adequate care for dependents who

are located in areas where such facilities are either nonexistent or already overcrowded. In such cases, the only solution is to insure that an adequate number of military doctors are made available. In the Navy, particularly during the past two years, an all-out effort to reassign doctors to such areas, even if only on a part-time basis in order to provide some degree of dependent care, has been made. But the over all shortage of medical officers has prevented efforts from being wholly successful.

With particular reference to these areas of intense dependent concentration, if the Secretary of Defense or the Service Secretary concerned finds that the dependent load is beyond the capacity of the civilian medical economy, then a determination should be made to that effect. Such a determination should then form the basis for insuring that adequate military medical personnel and facilities are provided to carry the load in that area.

It would appear from an administrative point of view, that in no other way can there be any assurance of carrying out the purpose of this legislation—namely, to provide an improved program of medical care for dependents.

While the bill does permit a member who has elected the insurance coverage to make use of either civilian or military medical facilities, that would be of no avail if both facilities are inadequate. There is, of course, no means whereby care by civilian facilities can be guaranteed. But an adequate degree of military medical care can be made available.

These facts are mentioned to indicate that civilian medical facilities, which are themselves overcrowded, would find it difficult if not impossible to absorb the additional load of military dependents. This applies particularly to areas where dependents are heavily concentrated such as Norfolk and San Diego. In isolated areas such as Camp Pendleton and Guantanamo Bay, civilian medical facilities are entirely unavailable.

The stated purpose of the bill is to provide an improved program of medical care for dependents. This would be accomplished by continuing the present program in military medical facilities, on an availability basis, and to supplement it by authorizing the use of civilian facilities through an insurance plan. The view that the Congress desires the present program be maintained, but on an improved and augmented basis, is strongly endorsed. As prescribed in the bill, the care to be provided by military facilities would be very similar to that under the present program. It would also authorize the Secretary of Defense to establish minimal charges for outpatient care, if found necessary, and would insure that dependents be given equal consideration in any medical facility regardless of the Service to which the head of the family belongs. No objection to either of those new provisions was interposed.

With regard to the insurance features of the bill, whatever form of effective insurance coverage is ultimately authorized, the principle that the Servicemen bear a portion of the cost, is favored. The bill presently

provides for contributing 30% of the monthly cost of the plan itself. It was suggested also that the Committee give consideration to the co-insurance principle whereby the insured bears certain initial costs of medical care that is actually provided rather than a fixed monthly charge.

The Chief of Naval Personnel stated that he had given many hours of earnest thought and study to this problem of adequate medical care for naval families, and that it is a matter of the utmost importance because it bears directly and very forcefully upon the morale, the security, and the effectiveness of all the Armed Services.

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Precautions and Techniques for Storage and Administration of Spinal Drug Ampoules

An absolutely aseptic technique must be observed in dealing with spinal anesthesia. Complications following such an anesthetic procedure are fortunately uncommon, but when they do occur they are most distressing, and not infrequently, the basis for legal investigations. Therefore, every effort must be made to insure sterility and freedom from contamination of the ampoules by the sterilizing solutions.

The postanesthetic complications, which may arise from spinal anesthesia, include such entities as septic meningitis from the introduction of organisms from unsterile equipment or drugs, chemical irritation of the meninges, and idiosyncracies to various drugs used for anesthesia. For these reasons, spinal ampoules must be properly sterilized and every effort made to insure that ampoules which are cracked are not used. Such cracks may be microscopic in nature and frequently are invisible to the eye. If such an ampoule is "wet-sterilized," the antiseptic solution may leak into the ampoule and the consequences of intrathecal injection of such material, especially if it contains formaldehyde, can be imagined. It is imperative, therefore, that such solutions used to sterilize spinal ampoules be colored with a strong and brilliant color so that any leakage into the spinal ampoule can be readily seen. Methylene blue added to a colorless solution is satisfactory, but the use of tincture of zephiran with its bright red color is preferable. Any solution used for this purpose should be alcoholic in nature and the use of any solution containing formaldehyde is dangerous.

It has been the practice, until recently, at this hospital to "wet-sterilize" spinal ampoules in tincture of zephiran. This was found to be quite satisfactory. However, it was strongly recommended at the last meeting of the American Society of Anesthesiologists that all spinal drug ampoules be autoclaved. Therefore, even though this was merely a recommendation and not an official statement of policy, this practice has been

adopted at this hospital. The technique has been well investigated. (1) Carter, Hebert, DeWald, and Talley have shown that repeated autoclaving produced only minimal chemical changes in the drugs and no change in the duration of anesthesia or in postanesthetic complications. They state, however, that because of caramelization of dextrose after more than one autoclaving, and because the effect of such caramelization is not known, even though its use is without complications, they no longer autoclave dextrose more than once. (2) Walton has recommended sterilization of spinal drug ampoules by autoclaving. (3) It should be noted that Walter believes that rubber bands should not be used to fasten ampoules together during sterilization because organisms may survive under them. Although it has been thought that autoclaving destroyed some of the drugs used in spinal anesthesia, notably epinephrine, this has been shown to be incorrect. The only major change which has been observed after repeated autoclaving has been caramelization of dextrose, and it is now generally agreed that it should be autoclaved only once.

In the Department of Anesthesia, U.S. Naval Hospital, Bethesda, Md., spinal packs are prepared for sterilizing and the ampoules of drugs are placed in them. These include one ampoule each of Pontocaine (Niphanoid), 20 mgm.; 10% dextrose, 3 cc.; 1% novocaine, 2 cc.; ephedrine, 50 mgm. and 1:1000 epinephrine, 1 cc. The packs are then sterilized by autoclaving at 250° F. and 20 lb. pressure for 30 minutes. No ampoule is autoclaved more than once and no changes in duration or completeness of anesthesia or in postanesthetic complications have been noted since the practice has been adopted. It is important to note that this technique avoids the risk of contamination of the spinal drugs with an antiseptic solution.

The technique of administration is: The anesthetic of choice is hyperbaric pontocaine, usually with a small amount of epinephrine added to prolong the duration of anesthesia. The anesthesiologist is responsible for positioning the patient, using a pillow to elevate the head slightly. While the back is being prepared with tincture of merthiolate, he surgically scrubs his hands and is gloved. He prepares a syringe containing 1% novocaine and lays it aside. The ampoule of 10% dextrose is opened and the correct amount aspirated into another syringe. In order to simplify the calculation of dosage, each cc. is prepared to contain either 5 or 10 mgm. Thus, if the 20 mgm. ampoule of pontocaine is used, 2 cc. of dextrose are used, and if the 15 mgm. ampoule is used, 3 cc. are used. Next, the ampoule of pontocaine is opened and the dextrose is added to it. After agitation to insure complete solution of the crystals, the correct dosage is withdrawn into the syringe. This usually amounts to 10 to 15 mgm. If epinephrine is to be used, it is now added to the mixture. The amount is usually 0.2 cc. Now, the skin wheal is made and the novocaine and 50 mgm. of ephedrine is injected into the sacrospinalis muscle. The spinal needle is inserted into the subarachnoid space with as little trauma as possible. If a 22-gauge needle is used, the Sise introducer

may or may not be used. Generally, the introducer is not used with a 20-gauge needle and the use of a small needle is encouraged (i. e. 22-gauge). The L3-4 or L4-5 interspaces are the most commonly chosen sites. An adequate flow of spinal fluid is obtained in 4 directions by rotating the needle. It must be clear and contain no blood. If necessary, to avoid bloody spinal fluid, another interspace is chosen and a second lumbar puncture is done. The syringe containing the anesthetic mixture is placed upon the needle and small amounts of spinal fluid are aspirated in 4 directions. The final concentration is determined by this dilution so that no more than a 0. 5% pontocaine or a 5. 0% dextrose concentration is used. This final solution is then injected at a rate of one cc. per second. The patient is then turned by the anesthesiologist and the level checked immediately. The head of the table may be lowered slightly to raise the height of the anesthetic level. Blood pressures are checked frequently during the first 10 minutes and as soon as the anesthetic level is high enough, the table is leveled off. Blood pressures are checked at 5-minute intervals until the patient is stabilized. If intravenous fluids are to be used, they are either started before the patient is positioned or immediately after the injection.

Because there are a great number of variables in spinal anesthesia, the resident is encouraged to eliminate as many as possible. Thus, if he prefers to sit to do the lumbar puncture, he should sit for all of them and if he prefers to stand, he should stand for all and not try to vary the technique. Every precaution is observed to avoid contamination of the equipment and drugs and every effort is made to do an atraumatic tap and obtain clear spinal fluid before mixing with the anesthetic solution.

The incidence of postanesthetic complications of a major nature can be held very low with such a technique. The common complication is probably headache with urinary retention a close second. Urinary retention can usually be avoided if the patients can be taught to void in the urinal prior to surgery. In regard to headache, all patients are encouraged to remain flat in bed for 8 hours after the lumbar puncture. The patient is permitted to use a pillow and may turn from side to side, but he should not sit or stand. The use of the words, "spinal headache", are avoided as much as possible. This technique seems to be effective in a large number of cases. In treating the occasional severe headaches that are encountered, forced fluids, mild analgesics, and occasionally the caudal injection of normal saline are used. These patients are encouraged to remain in bed because lumbar puncture headache is generally lessened by the supine position.

Normal precautions in regard to asepsis, lack of trauma in doing the lumbar puncture, and care in avoiding the injection of drugs which have been contaminated with antiseptic sterilizing solutions probably make spinal anesthesia as safe, if not safer, than general anesthesia. This is

especially true in those cases—particularly aboardship—where a trained anesthetist or anesthesiologist is not available and the surgeon is responsible for the anesthetic as well as the surgery. (LT W.R. Stilwell MC USNR, U.S. Naval Hospital, NNMC, Bethesda, Md.)

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Medical Treatment of Menière's Disease

The first step in the treatment of Menière's disease should be proper recognition of the condition and careful differentiation from other conditions which present vertigo as a symptom.

Because of faulty translation of Menière's original papers, several misconceptions regarding the disease have found their way into the literature. Two of the outstanding fallacies are (1) that he believed that hemorrhage into the labyrinth was the cause of the condition, and (2) that he presented the necropsy data in a case of hemorrhagic exudate in the semicircular canals as typifying the pathologic basis of the condition he was describing.

Menière's purpose in writing his papers was to separate from the general group of patients having the presenting symptoms of vertigo, nausea, and vomiting, a number of persons who also had indications of cochlear involvement.

Menière described four types of vertigo and dizziness occurring only in the crisis or attack and one type present also between attacks. The first is a true rotatory vertigo coming on without warning and tending to subside and recur at intervals of a few days to a year or more. The second consists of attacks of a to-and-fro or up-and-down motion. The third is a condition in which the patient feels and actually is unsteady. On attempting to walk, he may veer to one side or the other and bump into a wall or a tree. The fourth is an episode in which the patient, without previous warning, may be thrown violently to the ground as though struck on the head and afterward, while lying down, may experience violent vertigo, nausea, and vomiting with cold, clammy sweat. The fifth type is a condition which may occur between crises. The patient may often be unable to turn the head quickly or to lie down or get up suddenly without some vertigo or dizziness, although rarely to a severe degree. Menière emphasized that during an attack the patient does not lose consciousness, has no weakness or paralysis, can use the tongue freely, and at the end of the attack is in perfect health and can describe the events of the illness without difficulty.

The differential diagnosis of Menière's disease is frequently said to be easy, but this has not been the experience of the author. The conditions from which Menière's disease must be differentiated are unilateral eustachian insufficiency; thrombosis or embolism of the branches of the

posterior inferior cerebellar artery or the branches of the anterior inferior cerebellar artery which supply the vestibular nuclei; Bruns' syndrome; commotio labyrinthis following injury to the head; vertiginous epilepsy; migraine with vertigo; platybasia or basilar impression; tumors of the cerebellopontine angle; and anxiety hysteria with hyperventilation syndrome.

The term, "Menière's disease", must not be applied to those instances of sudden vertigo which have slow recovery lasting a week or two, to those which have violent tinnitus and severe loss of hearing showing only partial recovery after a period of weeks, or to those which have no recurrences. This type of apoplectiform vertigo is interpreted as being due to thrombosis or embolism of the artery to the labyrinth.

Diagnosis of Menière's disease depends chiefly on the audiometric findings—diplacusis, recruitment, discrimination deafness, or relative inability to recognize the meaning of words—because they are the cardinal signs of the disease.

The etiology of Menière's disease is not proved but good evidence suggests that it is a vasomotor neurosis like acrocyanosis, Raynaud's disease, migraine, angioneurotic edema, urticaria, and other specific and physical allergies. A tendency for the peripheral vascular bed to react abnormally to various types of stress such as emotional perturbation, fatigue, atmospheric and weather changes, sunlight, and nontoxic protein substances is characteristic of this group of conditions.

The fact that cholinergic nerves are concerned in the crisis or attack of Menière's disease is indicated by the fact that such a crisis can be relieved by drugs which stimulate the adrenergic nerves or paralyze the cholinergic nerves. Atropine was early found to be a drug chemically effective in relieving the symptoms and signs of an acute attack of Menière's disease. The intravenous injection of 3 to 5 mm. of a 1 in 1000 solution of epinephrine, given slowly, also will relieve the acute attack of Menière's disease in a short time.

Ephedrine by mouth in doses of 1 - 1/2 gr. (0.1 to 0.2 gm.), if given before nausea and vomiting appear, has been found to be an effective remedy.

Amphetamine sulfate given similarly by mouth in doses of 5 to 10 mg. has also been found effective.

Recently, dimenhydrinate in the form of Dramamine Injectable, 50 mg. dissolved in 10 cc. of water, given intramuscularly, or 50 mg. in 20 cc. of water given intravenously, has been found to terminate an attack of Menière's disease in 15 to 20 minutes.

Because, from evidence at hand, Menière's disease appears to be caused by disintegration of the autonomic nervous control with cholinergic overaction, the problem is one of counteracting the cholinergic preponderance, releasing the arteriolar spasm, eliminating the excess of intracellular fluid, and restoring the normal electrolyte balance.

The first method of treatment suggested by Mygind and Dederding was that of producing vasodilation by application of heat and massage and

elimination of interstitial fluid by restricting ingestion of sodium and water. Physical therapy continues to be a useful method in the treatment of Menière's disease.

Other vasodilators were later used with success, including papaverine, magnesium sulfate solution, and histamine. In the author's experience, the simplest to use is nicotinic acid or one of its salts with a free nicotinic acid radical.

Schemm has suggested that an excess collection of interstitial fluid, such as is found in the endolymphatic space in Menière's disease, is best combated by production of relative acidity in the tissue fluids, restriction of sodium intake, and intake of a sufficient quantity of pure water to increase elimination of sodium by the kidney.

Patients have been given a modification of Schemm's low-sodium acid-ash, or neutral-ash diet.

If the combined therapy, which is outlined, is followed, most patients will respond favorably, Occasional recurrences must be expected, however, because Menière's disease is based on an inherited constitutional tendency to react in this manner to various forms of stress. For this reason, the patient must continue on treatment for an indefinite period and must be satisfied with a quieter and more regular life than individuals who are not subject to this type of reaction. (Williams, H. L,, The Medical Treatment of Menière's Disease: Geriatrics, 11:8-12, January 1956)

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Acute Coronary Occlusion

During the past thirty years, the diagnosis of acute coronary occlusion has been greatly facilitated and its treatment greatly improved. The diagnosis has been improved by the routine use of 12 electrocardiographic leads and by the recognition of atypical symptoms. Numerous mild cases have, thereby, been discovered and a broader understanding of the disease has been reached. It should be emphasized that at the onset of the attack, possibly because the artery has not yet been completely occluded, the electrocardiogram may be normal or may show only slight changes.

The intensity of the pain, which ushers in the attack, is not an accurate gauge of the severity of the attack. Not infrequently, a coronary occlusion which begins with very severe pain runs a remarkably smooth course after the pain has eased. It is essential to relieve the pain as soon as possible. The most effective drug for this purpose is morphine; if the pain is intense, morphine should be given intravenously in a dose of 8 or 10 mg. In most cases, with less severe pain, the subcutaneous administration of morphine, as well as of Demerol, Dilaudid, or Pantopon is effective.

Nitroglycerin does not relieve the pain of acute coronary occlusion, but is very effective in status anginosus, which represents a state of acute coronary

insufficiency. As soon as the pain has been relieved, the advisability of hospitalization should be considered. If conditions at home are satisfactory, the vast majority of patients can be treated at home, particularly because most attacks run a mild course following the initial pain. However, if the patient's condition is serious, if the home environment is unsuitable, and if nurses are not available, the patient may be removed to the hospital immediately by ambulance.

At the onset of the attack, the patient is usually apprehensive. He may even be terrified; for, like many others, he may believe that the development of a coronary occlusion spells the end of things physically, sexually, socially, and financially. Therefore, it is important to allay his fears at the first feasible opportunity by assuring him that the vast majority of patients make a good recovery and can resume a full, productive life.

Anticoagulant drugs are indicated (1) when congestive failure or shock is present; (2) if there is evidence of, or a history of, phlebitis; (3) after a pulmonary embolus or infarction, and (4) following peripheral arterial embolism, with the exception of cerebral embolism. The age of the patient is not a factor in anticoagulant therapy; old age is not a contraindication to the use of anticoagulants. This is also true of pulmonary edema even if the sputum contains considerable blood. It is scarcely necessary to emphasize the extreme importance of careful supervision during anticoagulant therapy because hemorrhage and even death may occur.

When anticoagulants are administered, they should be continued for approximately one week after the patient has been permitted out of bed, and longer if there has been evidence of peripheral phlebitis or pulmonary infarction. Long-term anticoagulant therapy has been employed for months or years following an attack, but the value of this procedure has not been demonstrated as yet.

Anticoagulants are contraindicated in nonspecific pericarditis because they are apt to cause bleeding into the pericardium in this condition. Anticoagulants are also contraindicated in patients with a history of bleeding tendency, ulcerative colitis, peptic ulcer, renal or hepatic disease, and probably in those who have had a cerebrovascular accident.

When acute coronary occlusion first became widely recognized, and its diagnosis was commonly established, complete and prolonged bed-rest was the cardinal principle in therapy, although only scant data substantiated the need for such treatment. Great credit is due to Levine, Dock, and Harrison for pointing out that prolonged bed-rest in acute coronary occlusion and in heart failure is often unnecessary and may be harmful. It has been shown that recumbency tends to increase cardiac work by increasing the circulating blood volume. In addition to the anxiety and depression it may produce, prolonged bed-rest leads to generalized loss of muscular and vascular tone, causes constipation and distention, and predisposes to venous thrombosis. Conversely, chair treatment reduces these ill effects and lessens the need for prolonged anticoagulant therapy.

The authors believe that the most important principle in the therapy of coronary thrombosis is to treat each patient individually. The physical and psychological state of each patient should determine how he can best be treated. The patient, suffering from a mild attack, may be treated liberally with every expectation of a good recovery.

Patients, who are more seriously ill (congestive failure, tachycardia, a systolic blood pressure below 80 or actually a state of shock) should be kept in bed until the usual therapeutic measures have been tried. Much controlled experience is necessary to determine the efficacy of the "arm-chair" treatment. But indiscriminate prolonged bed-rest for all patients appears inadvisable.

When the patient is permitted to walk about, depends to some extent upon when he first sat up. In very mild cases, the authors allow walking at the end of the second week or at the beginning of the third; usually the patient begins to walk the fourth week. Such patients may be ready to return to work within two or three months. In more severe cases, rehabilitation is slower, but many of these patients also can resume work in three to six months. Treatment must be individualized. The authors have found that four of every five patients are able to resume work following coronary occlusion and can lead productive lives for many years.

Not uncommonly, coronary occlusion sets in dramatically as an attack of pulmonary edema. The treatment of this condition is the same as if coronary occlusion were not present. Morphine intravenously or intramuscularly is usually efficacious but intravenous aminophyllin and strophanthin may be necessary. Aminophyllin must be administered very slowly, the dose being 0.5 mg. The initial dose of strophanthin K is 0.25 mg. Injection of 0.1 mg. may be repeated every hour until 1 mg. has been given in 24 hours. Oxygen under positive pressure, rotating tourniquet or phlebotomy if shock is not present, and an intravenous mercurial diuretic may be helpful. Occasionally, the inhalation of alcohol vapor has been found to be effective. In patients with pulmonary edema, anticoagulant therapy should be instituted even if the sputum is bloody.

In the persistent type of congestive failure, in coronary occlusion, the usual treatment is given. However, particular care is required to avoid digitalis intoxication which is more dangerous in the presence of acute infarction.

In addition to the use of digitalis, the salt intake should be restricted and mercurial diuretics given. If the degree of failure is not severe, an oral diuretic such as Neohydrin or Diamox is often beneficial.

Mild transitory states of shock are very common at the onset of coronary occlusion. Sometimes, the shock is profound and persistent. In the past, this has augured a fatal outcome in 80 or 90% of the cases. However, several vasopressor drugs are now available and are occasionally effective if used early. Among them are (1) Norepinephrine (Levophed),

(2) Mephentermine (Wyamine), (3) Methoxamine (Vasoxyl), and (4) Neosynephrine.

Ventricular tachycardia should be treated promptly with either quinidine or Pronestyl, administered orally or intramuscularly.

The low calorie diet has greatly improved the outlook during the attack of coronary occlusion. It decreases the work of the heart and prevents gastrocardiac reflexes. During the first few days or weeks, 800 to 1200 calories daily suffice. Thereafter, the intake may be gradually increased.

Nausea and vomiting are often very disturbing and may be serious. They may be prevented by abstinence from fruit juices, cold milk, and spicy foods. Dramamine (50 mg.), Thorazine (10 to 25 mg.) or Marezine (25 to 50 mg.) given orally, intramuscularly, or by suppository, is the most effective treatment. Sips of charged water and ginger ale may also be helpful. Fluids by mouth should be restricted and solids given. Because nausea and vomiting may be caused by digitalis, morphine, aminophylline, ammonium chloride, or quinidine, these drugs should be temporarily discontinued. If the nausea and vomiting persist, however, administration of the drugs may be resumed, because congestive failure alone may cause nausea and vomiting which may disappear only after further digitalization.

Hiccough is usually frightening to the patient and it is extremely important to reassure him over and over again. If this is done, the hiccough almost always subsides. If it persists, various remedial procedures may be employed, all of which have proved successful at some time: rebreathing into a paper bag Carbogen (5 or 7% CO_2 and O_2 inhalations); chlorpromazine (Thorazine), quinidine intramuscularly, niacin or atropin intravenously, inhalation of amyl nitrite, ethyl chloride spray along the diaphragm, ether anesthesia or ether intramuscularly, gastric lavage, and stellate ganglion block. In rare cases, unilateral phrenicectomy or phrenic nerve crush is required.

Whiskey should not be given in acute coronary occlusion because it may increase the pulse rate. Smoking should be prohibited. (Master, A. M., Jaffe, H. L., Treatment of Acute Coronary Occlusion: Dis. Chest, XXIX: 36-44, January 1956)

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Antimalarials in Lupus Erythematosus

In recent years, the effective treatment of discoid lupus erythematosus has been greatly advanced by the introduction of antimalarial drugs. While this as well as former methods of treatment remain on a purely empirical basis awaiting fuller understanding of the pathogenesis of lupus erythematosus, it is now evident that quinacrine (Atabrine) and chloroquine

(Aralen) afford suppression or control of the disease more consistently than any of the older therapeutic agents. Chloroquine has found acceptance as being superior to quinacrine in avoiding the undesirable skin discoloration and hematologic risks of the latter. Attention now is centered upon the investigation of other antimalarial drugs in the effort to find those which are most beneficial and at the same time least toxic.

This report includes observations on the use of quinacrine, chloroquine, and amodiaquin (Camoquin). Thirty-two patients participated in this study. Eleven received only one of the drugs; thirteen received separate courses of two of the drugs; and eight received courses of each of the three drugs. Results are assessed as of April 1955.

All patients had a medical history and examination, serology, urinalysis, and complete blood count; biopsies were performed when there was doubt in the clinical diagnosis. Three patients had subacute disseminated lupus erythematosis; all others had the chronic discoid form. L. E. cell studies were done if systemic disease was suspected, as well as at random.

Several questions are raised by the use of the antimalarial drugs in the treatment of lupus erythematosus:

1. Are they safe and is their use justified? Lupus erythematosus, even in the discoid form, is a dangerous disease. All other medications which have been used in the treatment of this condition have been capable of producing undesirable side-effects. The complications accompanying the use of antimalarial drugs, with a few exceptions, have been of a minor nature; therefore, when proper precautions are observed, the authors believe that their use is justified.

2. Are these drugs really effective or are physicians riding a wave of enthusiasm? Comparison with the results obtained in the past with medications such as gold, bismuth, liver, or vitamin B_{12}, either in these patients now receiving the antimalarial drugs or in other patients, indicates that the present therapy is definitely more beneficial than the older modalities. This is confirmed by the cumulative observations of 48 dermatologists using chloroquine on 161 patients and quinacrine on 151 patients.

3. Are the good results confined to discoid lupus erythematosus? Because of the possibility of serious untoward effects, experience has accumulated slowly in the use of the antimalarial drugs in the systemic form of the disease. The authors believe that the antimalarial drugs can be a very useful adjunct in the therapy of systemic lupus erythematosus.

4. Are these drugs curative? In the dosage used at present, the authors are of the opinion that cures are not produced, and that relapses will occur although remissions may last several months.

Observations on patients treated with quinacrine, chloroquine, and amodiaquin for discoid lupus erythematosus are discussed. These drugs appear to be safer and better than any known heretofore in controlling the disease, but require careful supervision. Limited experience with amodiaquin suggests that it is similar to chloroquine in effect and well tolerated.

Both amodiaquin and chloroquine appear preferable to quinacrine. More clinical investigation of amodiaquin is necessary to determine its safety. These drugs are not considered a cure for the disease, but they may succeed in inducing and sustaining a remission. Relapses are successfully managed by retreatment. (Leeper, R. W., Allende, M. F., Antimalarials in the Treatment of Discoid Lupus Erythematosus: Arch. Dermat., 73: 50-56, January 1956)

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Nutritional Status of the Aging

The idea that diet is related to longevity and nutritional status to chronic disease is not new. Although there has been an increase in life expectancy in all age groups, the really dramatic increase has been in the very young. The expectancy of a person at age 60 is very little more today than it was 50 years ago. The five leading causes of death have shifted from the infectious diseases to the chronic diseases.

The study reported in this article represents an effort to add a "few more stones" to the edifice of knowledge regarding nutrition and aging which is now abuilding. The basic study was carried on during the summer and fall of 1948 and 1949, when 577 volunteer subjects over the age of 50, and apparently healthy were examined. The criteria for selection from 843 registrants were:

Health. Not on a special diet, not under the care of a physician within the previous three months, physically and mentally capable of participating, and subjectively in good health.

Equal sample of males and females. The final count was 280 males and 297 females with an age distribution from 50 to 90 years.

With such a large volume of detailed data available on the subjects of the 1948 study, it appeared that "longitudinal studies" or repeated examinations of the same subjects might offer additional useful information. Therefore, in the summer of 1952, as many as possible (350) were re-examined using a somewhat less complex procedure. Again, in the spring of 1955, a second follow-up was done on these subjects. The complete analysis of the data is not yet available, but certain relationships between nutritional status and health can be explored from the existing information.

In the 7-year period, 1948 through 1954, 88 or 15.3% of the 577 subjects had died. Of these, 63 were males and 25 were females, giving a percentage death rate of 22.5 and 8.4% respectively.

Although this series is very small, it confirms what has been pointed out many times, that the three major categories, heart and circulatory diseases, nervous system disease, and malignant neoplasms, account for 85% of the deaths to date in this group of individuals over 50 years of age.

Heart and other circulatory diseases are the greatest killers of all of the diseases. The death rate in this series from heart and circulatory diseases is three and one-half times greater in men than in women. The death rate from heart and circulatory diseases is five times greater in those over 70 than in those from 50 to 69 years of age.

The death rate from nervous system disease is about equal in men and women, but two and one-half times greater in those over 70 than in those from 50 to 69.

In this series, to date, the death rate from malignant neoplasms is three times higher in males than in females, but about equal for the two age groups.

The respiratory system death rate is three times higher in males than in females and seven times higher in those over 70 than in those from 50 to 69 years of age.

Because heart and circulatory diseases are responsible for 54% of all deaths in the total universe studied, and 58% of the male deaths and 62% of the deaths over 70 years of age, it would appear that the exploration of any relationships between nutrition and heart disease would be worth study.

High blood pressure is commonly associated clinically with cardiac failure and death. A table shows that the percentage of deaths in the total series was four times higher in the patients with recorded (1948) systolic pressures over 180 mm. of mercury than in those with systolic pressures of less than 140. In males, the percentage of deaths was four and one-half times higher in the hypertensive groups than in those with systolic pressures under 140. However, in women, the percentage of deaths was only one and one-half times greater.

The table also records the diastolic pressures. Apparently, diastolic pressures over 100 mm. of mercury are not correlated with cardiac deaths to the same degree as systolic pressures over 180 mm. of mercury. However, the death rates were slightly higher in those patients with diastolic pressures over 100 as compared with those with diastolic pressures under 90 mm. of mercury. Obesity and cardiovascular disease and cardiac deaths are frequently related.

Cholesterol intake has also been related to hypertension and arteriosclerosis. The data presented fail to sustain a relationship between high serum cholesterol and hypertension or cardiovascular-renal deaths. In fact, the reverse seemed true; those subjects with the lower blood cholesterol levels suffered the highest death rates from cardiovascular-renal disease. Analysis of this relationship in two age groups—those under 70 years of age and those 70 years or older—disclosed that mortality in the former group did not vary with cholesterol level; among persons 70 and over, the higher the cholesterol the lower was the mortality.

A suggestive relationship was found between mortality and the blood levels of vitamin A, niacin, and ascorbic acid. The death rates in individuals

with a low blood concentration of each, and of all, these three vitamin factors was higher than in those subjects with normal or high blood concentrations.

No significant relationship could be found between mortality and any of the following factors determined for the volunteer subjects: hemoglobin, blood glucose, blood creatinine, caloric intake, protein intake, fat intake, carbohydrate intake, calcium or iron intake.

The high percentage of edentulous subjects in the low economic group, as compared with the high economic group, may perhaps be explained by both poor diet and inadequate dental care in the low economic group.

This study of the nutritional status of 577 volunteer healthy subjects in relation to their health and life expectancy provides:

1. A living example of the close integration of various disciplines associated in the health field—including physicians, nutritionists, laboratory technicians, statisticians, public health nurses, institutional managers, and the public—to work toward the solution of a complex problem.
2. Further evidence of the relationship between hypertension and overweight, and mortality.
3. A suggestion that, among persons over 50 years of age, those with high levels of total blood cholesterol have a lower mortality rate than do persons with low amounts of total blood cholesterol.
4. Indication that older persons with low blood levels of vitamin A, niacin, and ascorbic acid suffer a higher mortality rate than do persons with greater amounts of these substances in the blood.
5. Indication of poorer dentition among persons in low income groups than among those enjoying a higher level of living.

(Chope, H. D., Breslow, L., Nutritional Status of the Aging: Am. J. Pub. Health, 46: 61-67, January 1956)

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The Art and Science of Medicine

Twenty-three hundred years ago, Hippocrates observed that physicians must not only be prepared to do what is right themselves, but also to make the patient, the attendants, and the externals cooperate. This is perhaps the first recorded statement of the importance of the art of medicine.

To make the patient cooperate, one must first gain his confidence and this, in turn, requires not only a knowledge of the disease the patient has, but also an understanding of the patient as an individual and full consideration of the externals around him.

The reform of medical education and teaching begun late in the last century has brought all medical schools to a high state of scientific efficiency. They are not only graduating more doctors, but these doctors are better trained in the basic sciences and in the several branches of medicine. Under

modern methods of medical teaching, medical education does not end for the young doctor upon graduation. To a great extent, he continues the study of medicine throughout life. At least one year of service as an intern is now considered an essential part of his training. The openings for further resident training are eagerly sought by a large majority of young physicians. The hospitals offering these training courses are better equipped and better staffed than ever before. The research programs of medical schools and teaching hospitals are strongly supported and have expanded rapidly. This has resulted in greatly strengthening the effective teaching in these institutions. It also serves to draw into this orbit adequately equipped students who are desirous and capable of entering investigative medicine. Through extension courses offered by medical schools and teaching hospitals, through innumerable medical society gatherings and medical journals that deal with every aspect of medical activities, the education and training of the physician in the science of medicine continues throughout his professional life.

Medicine is further supported by numerous ancillary or auxiliary groups. Professional nurses of today are more effectively trained in the knowledge and techniques of their profession than ever before. Thousands of technicians are active in the support of medicine in all its phases. These groups also are constantly extending their education.

All of these factors have brought about great changes in the general medical situation. The problem of the acute infectious diseases has diminished almost to the vanishing point. It is interesting to note that, considering five diseases only—typhoid fever, diphtheria, pneumonia, the acute diarrheas of childhood, and tuberculosis—if the same death rate prevailed today for these diseases as did 50 years ago, 600,000 people who are now living would have died in the past year. The decrease in infant and maternal mortality has been equally striking. The over all effect has been to increase the expectation of life by 20 years during the past half century.

All of this is said, not in praise of the medical profession, but to point out the paradox which faces medicine today. The more efficiently it operates, the greater are the burdens placed upon it. The more effectively it eradicates disease, the more patients it has to deal with. The greater its contributions to the total health of the nation, the more it is critized and the more vocal become the self-appointed guardians of the health of the public.

What is wrong in this picture? Why does the number of patients being treated in hospitals continue to increase? Why are doctors' offices more crowded than ever? Why are the people disturbed, anxious, and fearful? Perhaps it is because their eyes also are focused on the machinery of medicine and they have lost the concept of medicine as a healing art. A large number of the patients who crowd the doctors' offices do not present problems of organic disease and those with an organic disease are often suffering with a functional condition more important than a relatively minor organic defect. Search for this organic factor may absorb the attention of

the physician and the patient alike and the more important functional disorder may be overlooked and ignored. In this approach, the physician is fully supported by the patient who expects the doctor to make full use of all the mechanical contrivances available and to indulge him in all the latest therapeutic procedures.

If there is somthing wrong, what can be done about it? Is there something lacking in premedical education of the prospective physician or in his professional education in medical schools and hospitals? Has health education and pseudo health education carried out so widely by pamphlets, news papers, magazines, radio, and television backfired and created more fear than it has allayed? Has the physician lost the ancient concept of medicine as a healing art? Has the physician himself in his zeal for and absorption in the science of medicine become more interested in disease than in people?

In American high schools and colleges, increasing emphssis year after year has been placed on the practical. Education has been held forth as a means of gaining economic advantage, or of promoting one's social standing. Premedical courses in college have become crowded by requirements in biology, chemistry, and physics to the exclusion of the broadening cultural subjects pertaining to the student's relation to his fellow man. Language, philosophy, history, and the social studies are largely neglected.

In the medical school, the student lives in a world apart in a vacuum where he devotes his time almost completely to the subjects related to the science of medicine. He sees and hears much of the diagnosis and treatment of disease but little of the treatment of people. That subject, if considered, is only introduced in a brief course in psychiatry or under the solemn title of psychosomatic medicine. Somewhere in the pursuit of this surging science, the human aspect of medicine is lost. During his postgraduate training in hospitals, the student may have one year of rotating internship which does serve to give him a broader view of medicine. He is likely, however, to embark on a course of training in some particular specialty and from there on he develops gun-barrel vision. Early in his career, he may settle on some particular subdivision of medicine and never acquire a broad general viewpoint as he becomes absorbed in the details and techniques of the specialty that he has chosen. If this process is continued through his postgraduate period, his perspective is likely to be limited to the field of his particular specialty. In general, the medical student lives in a protected world, protected from the assaults of everyday life, and the experiences of the average citizen. He feels that he is properly concerned with the development of his knowledge of medicine as a science and this leaves him little opportunity to observe medicine in its relationship to an individual human, to the body politic, or to the general affairs of men. He receives little or no instruction in medicine as an art, or in the basic philosophy of medicine. If he enters a specialty without having engaged in general practice, he may never

have the opportunity to acquire a broad outlook on medicine as a whole or on the patient as a whole.

The highly qualified physician is not just a man with a good memory and a facile mind, nor one merely skilled in technique. He must be a student of people as well as of medicine. He must be able to relate his knowledge of medicine to his patients' needs and to the medical needs of his community. He should be a practitioner of the healing art. His knowledge and interests must go beyond the field of medicine. He should know his community and how the people who make up that community live. He must be cognizant of the factors that bear on the general health of the community and of the environmental conditions that influence the health of the individual. He must also be aware of the effect of environment upon medicine and strive to improve that environment. For this reason, he should be active in his local society and on his local hospital staff.

The dignity of general practice should be restored. The people should learn to consult first the general practitioner and attach themselves to him as a family advisor. The general practitioner should accept the responsibility of this high and honorable position. He should recognize his limitations in certain fields of highly specialized techniques and should freely seek the advice of the specialists when needed. He should consider always the best interests of the individual who has entrusted his welfare to him. The physician with the narrowed vision of the highly trained specialist should also recognize his limitations in the broad field of general medicine so that medicine may become more personalized to the benefit of both medicine and the people.

The people should learn that there are no final answers in medicine. The sensation of today may be forgotten tomorrow. Out of conflicts of opinions, through discussions, and by careful experimentation, certain generally accepted truths emerge. They should know that medicine advances slowly and painfully toward a goal that it always seeks but has not yet reached. They should learn again of the great advantages in attaching themselves to a personal physician and of trusting him and relying upon him to guide them through the maze of a scientific wilderness, rather than enter this wilderness without a guide. (Martin, W. B., The Art and Science of Medicine: Texas Rep's. Biol. & Med., 13: 819-825, Winter 1955)

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Opportunities for Research

The opportunities for Medical, Dental, and Medical Service Corps officers as well as enlisted personnel to engage in research in the naval medical research laboratories are exceptional. Excellent facilities are

now available for research in the basic biological sciences, experimental medicine and surgery, dentistry, preventive and tropical medicine, aviation medicine, submarine and diving medicine, field and combat medicine, and the preventive medicine aspects of chemical, biological and atomic warfare. At the present time there will be billets open for three medical officers in clinical research at the Naval Medical Research Unit No. 3, Cairo, Egypt. These openings are to be filled between 1 June and 1 October 1956.

All personnel interested in research in one or more of the fields listed above should apply to the Bureau in accordance with BuMed Instruction 6500.1 of 6 March 1953. (Research Division, BuMed)

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From the Note Book

1. Rear Admiral R.W. Malone, DC USN, Assistant Chief for Dentistry, and Chief, Dental Division, Bureau of Medicine and Surgery, and Captain C.M. Wheeler, DC USNR, Head, Dental Reserve Branch, Dental Division, attended the Mid-Winter Meeting of the Chicago Dental Society, February 6 - 9, 1956. (TIO, BuMed)

2. Captain W.E. Kellum, MC USN, was the recipient of the John Jeffries Award for 1956 at the Annual Meeting of the Institute of the Aeronautical Sciences, held in New York, January 23, 1956. (TIO, BuMed)

3. LT H.L. Rosomoff, MC USNR, will deliver a lecture at the Symposium on Hypothermia, sponsored by the Royal Society of Medicine of England, on "The Effects of Hypothermia on Normal and Abnormal Physiology of the Nervous System." (TIO, BuMed)

4. CDR W.C. Lewis, MSC USN, was recently appointed Chief of the Armed Services Medical Regulating Office. ASMRO, located in the Main Navy Building, Washington, D.C., was established by charter in November 1950 as a joint agency of the Army, Navy, and Air Force, with duties, authority, and responsibilities relating to the evacuation of patients and utilization of Armed Forces hospitals within the continental United States. (TIO, BuMed)

5. LTCDR C.M. Leevy, MC USNR, USNH St. Albans, participated in the television show "Medical Horizons" January 2, presenting "Research in Liver Disease." The telecast included a review of the value of combining clinical studies, biochemical tests, and tissue examination in practical diagnosis and treatment of liver disease, and indicated newer avenues of clinical research which are permitted by the availability of in vivo liver biopsies for chemical analysis, tissue culture experiments, and radioisotopic studies. (TIO, BuMed)

6. An exhibit approved and arranged by Rear Admiral B. W. Hogan, Surgeon General of the Navy, was sent to Mexico City on January 13, to participate in the Third Congress of the Latin American Society of Orthopedics and Traumatology at the invitation of Dr. Alejandro M. Zimbron, President of the Congress.

Captain T. J. Canty, MC USN, Chief of the Amputee Service and Director of the Navy's Prosthetic Research Laboratory at USNH Oakland, and eight of his patients and staff, departed on January 13 to participate in the Congress. (TIO, BuMed)

7. The revised edition of the "Career Plan for Naval Dental Officers" has recently been distributed to all Naval Districts and Offices of Naval Officer Procurement. If additional copies are required, activities should submit a request directly to the Dental Division, Bureau of Medicine and Surgery. (TIO, BuMed)

8. Lieutenant Colonel Guido Ramon Ciotti, DC, Paraguayan Army, was awarded a certificate of completion of study in Maxillofacial Surgery and Prosthesis by the Commanding Officer, U.S. Naval Dental School, National Naval Medical Center, Bethesda, Md., on December 30, 1955. (TIO, BuMed)

9. An x-ray machine that rapidly takes a single panoramic x-ray picture of the entire dental arch has been developed by the National Bureau of Standards in cooperation with the U.S. Air Force Dental Service and the USAF School of Aviation Medicine. The panoramic x-ray machine should be particularly useful to the Armed Forces in making full-mouth dental x-ray surveys of inductees on entering and leaving the Service. The device should find application wherever large numbers of people are examined for dental defects, and its principles can be applied to radiography of other parts of the body. (Technical News Bulletin, NBS)

10. The American Cancer Society and the National Cancer Institute of the Public Health Service, will jointly sponsor the Third National Cancer Conference in Detroit, Mich., June 4, 5, and 6. More than a thousand research scientists and clinicians, including many from foreign countries, are expected to attend. (American Cancer Society)

11. An expanded program of research in allergy and infectious diseases has been announced. This program will be administered by the National Microbiological Institue which is being redesignated as the National Institute of Allergy and Infectious Diseases. The Institute will also support long-term basic studies in these fields through grants to research scientists in the nation's universities and medical schools. (PHS, HEW)

12. The Naval Training Bulletin (NavPers 14900) of January 1956, discusses the following subjects which are of interest to all Naval officers, whether active or inactive:

(a) Promotion of officers in the Navy: General background
(b) The role of the Selection Boards
(c) The role of the Naval Examining Boards
(d) The role of the Naval Examining Center
(e) The role of the Correspondence Course Program
(f) Promotion Examination Plan for Regular and Active Duty Reserve officers
(g) Promotion Plan for Inactive Duty Reserve officers
(h) We promote ourselves: an informal approach

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Recent Research Projects

Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Corticosteroid Secretion in the Adrenal Venous Blood of the Hypophysectomized Dog as an Assay for ACTH. NM 007 081.22.02, 4 Aug. 1955.
2. Observations on Immunity to Shigella Infections in Embryonated Eggs. NM 005 048. 04.21, 13 September 1955.
3. Tabular Data of the Velocity and Absorption of High Frequency Sound in Mammalian Tissues. NM 004 005.03.08, 15 September 1955.
4. Adrenal Cortical Function in Hypothermia. NM 007 081.22.03, 15 September 1955.
5. Enzymatic Activity of Radiated and Normal Salivary Gland Tissues. NM 006 012.04.87, 20, September 1955.
6. The Relationship Between Psychogalvanic Activity and Pilot Performance Under Simulated Instrument Flying Conditions. NM 001 056.08.02, 26 Sep'55.
7. Further Studies of the Interaction of Histamine and Potassium Chloride in Mice and Guinea Pigs. NM 007 081.17.02, 28 September 1955.
8. Factors Influencing Host Virus Interactions. A Comparison of Viral Multiplication and Histopathology in Infant, Adult, and Cortisone-Treated Adult Mice Infected with the Conn. -5 Strain of Coxsackie Virus, NM 005 048.23.01, 17 October 1955.
9. Approximate Treatment of Diffusion into a Cylindrical Enzyme System Obeying Michaelis-Menten Kinetics. NM 000 018.04.13, 17 October 1955.
10. Filariasis in American Samoa, VI. Survey of Swain's Island. NM 005 048.08.06, 20 October 1955.
11. The Mechanism of Potentiation of Acetylcholine by Eserine on the Frog Rectus Abdominis. NM 000 018.12.02, 24 October 1955.
12. A Note on the Differential Equation of Simple Enzyme Kinetics, NM 000 018.11.04, 7 November 1955.

Naval Medical Research Unit No. 4, Great Lakes, Ill.

1. The Total Leukocyte and Differential Counts of Naval Recruits During Routine Inoculation. NM 005 051.14.17, 25 May 1955.

Naval Air Development Center, Johnsville, Pa.

1. Human Tolerance to Positive G as Determined by Physiological Edn Points. NADC AE-1401. NM 001 011 302 (formerly NM 001 060.06), 30 August 1955.
2. The G-Protection Provided by the Full Pressure Half Suit. NADC-MA-5511, Report No. 1, NM 001 100 310, 23 September 1955.
3. The Electroretinogram in Man During Blackout. NADC-MA-5514, Report No. 1, NM 001 100 317, 1 December 1955.
4. The Effect of Skin Texture on the Heating of the Human Skin by Thermal Radiation. NADC-MA-5515, Report No. 7, NM 001 103 301, 1 December 1955.
5. The Sodium and Potassium Content of Brain and Muscle of Rats Subjected to High Acceleration. NADC-MA-5513, Report No. 1, NM 001 100 312, 5 December 1955.
6. Summary Review of Transmission at the Neuromuscular Junction. NADC-MA-5516, Report No. 5, NM 001 103 300, 22 December 1955.
7. Spectral Transmittance and Reflectance of Excised Human Skin. NADC-MA-5517, Report No. 8, NM 001 103 301, 28 December 1955.
8. Annual Research Progress Report by Staff, Aviation Medical Acceleration Laboratory, 31 December 1955.

Naval Medical Field Research Laboratory, Camp Lejeune, N.C.

1. Recovery of T-Form Colonies of Pleuropneumonia-Like Organisms from Non-Gonococcal Urethritis Patients. NM 005 052.37.03, January 1956.

Naval Medical Research Laboratory, Submarine Base, New London, Conn.

1. Dark Adaptation and the Near Ultraviolet. NM 002 014.09.05, Report No. 268, 12 October 1955.
2. The Relation of Tooth Loss to Gingivitis. NM 003 041.61.01, Report No. 269, 30 October 1955.
3. A Survey of Toothbrushing Habits of Young Adults. NM 003 041.61.02, Report No. 270, 31 October 1955.

Naval School of Aviation Medicine, NAS, Pensacola, Fla.

1. The Effects of an Instruction to be Intelligible upon a Speaker's Intelligibility, Sound Pressure Level, and Message Duration. NM 001 104 500, 30 July 1955.

2. Pre-Training Flight Experience Levels in Relation to Aptitude Test Scores and Attrition from the Naval Air Training Program. NM 001 108 102, 1 August 1955.

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BUMED INSTRUCTION 6710.26 24 January 1956

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Defective medical and dental material; authority for disposition of

Ref: (a) Medical and Dental Materiel Bulletin, Edition No. 62 of 1 January 1956
(b) Art 25-21, ManMed

This instruction provides authority for the disposal of defective material listed in paragraph IV of reference (a).

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BUMED INSTRUCTION 4860.1A 27 January 1956

From: Chief, Bureau of Medicine and Surgery
To: All Management Control Activities of the Bureau of Medicine and Surgery

Subj: Program for review of commercial and industrial-type facilities

Encl: (1) Cost principles for use in determination of products and services; cost of industrial and commercial facilities owned and operated by the Department of the Navy
(2) DD Form 833 (Report of Analysis of Commercial and Industrial Type Facilities).

The purpose of this instruction is to promulgate the Department of the Navy policy with respect to the ownership and operation of commercial and industrial-type facilities within the Naval Establishment and prescribe the general instructions that will be applicable to the fifth and all future increments of facilities to be reviewed under subject program. BuMed Instructions 4860.1, 4860.2, 4860.3, and 4860.4 (all NOTAL) are canceled.

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DENTAL SECTION

Dental Section of Medical News Letter

Statement of Rear Admiral R. W. Malone DC USN, Assistant Chief for Dentistry and Chief, Dental Division. Beginning with this issue, some of the newsworthy information about the Naval Dental Service that has been printed throughout the pages of the Medical News Letter has been combined into one section titled the "Dental Section." The Dental Section will contain news which will be of interest to naval dental personnel and the dental profession.

The desire to know what is going on in the Naval Dental Service is common to all dental personnel. The Medical News Letter offers an ideal media to "pass the word," since it is distributed to every dental officer on active duty, many Reserve dental officers on inactive duty, and many institutions in the United States and abroad.

Every dental officer, no matter where he is and what he is doing, is a public relations officer for the Navy, his corps, and his profession. In this role, each dental officer can contribute much to the news which can be published. BuMed Instruction 5720.2A has examples of the types of information that are desired by the Dental Division. Therefore, all dental officers are urged to contribute newsworthy information via official channels so that the many worthwhile activities and accomplishments of the personnel of the Naval Dental Service may receive proper recognition.

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Dental Officer Training

The Naval Dental Service now has 74 officers under formal training, or 4.16% of the total number of regular dental officers. This includes 16 under intern training, 22 in the general postgraduate course at the Naval Dental School, 8 in residency training in naval hospitals, 15 in advanced training (residency type) in selected dental activities, 2 in specialized training at the Naval Dental School, 5 in Service schools, and 6 in civilian schools. The training program for Fiscal Year 1957 will be approximately

the same as for last year. BuMed Instruction 1520.2C contains the latest information on submitting applications for training.

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Dental Facility Planning

In the continental United States, there are 171 dental facilities with a total of 1724 dental operating units installed and in use. Forty-seven percent, or 788, of these units are concentrated in 21 activities in the recruit training and fleet operating areas. The remaining 150 facilities are divided among smaller shore activities. In addition to the 171 permanent dental facilities, there are 10 mobile dental units assigned to naval districts to care for military personnel in isolated areas and other small groups of military personnel. without dental facilities. Prosthetic dental treatment is provided at 73 of the 171 facilities and by one mobile dental unit. The overseas shore base activities have 40 dental facilities with a total of 207 dental operating units. Prosthetic dental treatment is provided in 29 of these facilities. There are 161 ships with dental facilities with a total of 305 dental operating units. Forty-eight ships are equipped with dental prosthetic laboratories.

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Dental Personnel

At this time, the Naval Dental Service has the following number of ensigns (1995) enrolled in this student program:

Year of Graduation	Estimated Navy Requirement	Number Enrolled
1956 graduates	590	590
1957 graduates	330	330
1958 graduates	570	500 (estimated)
1959 graduates	300	75-100(estimated)

Procurement in this program has been closed for the classes scheduled to graduate in 1956, 1957, and 1958.

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The Dental Reserve Program

There are now 5900 dental officers on the inactive duty Reserve list. During Fiscal Year 1956, 10%, or 593, dental officers were ordered to

active duty for training. Of the 5900 Reserve dental officers, over 1100 are serving in Reserve dental companies without pay. Nine of these companies are made up entirely of ensigns (1995). These student Reserve dental companies have 300 ensigns in them. During the summer of 1955, 300 ensigns (1995) were ordered to active duty for training. Most of the 593 Reserve dental officers who were ordered to active duty for training last year spent two weeks of active duty at a naval dental facility.

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MEDICAL RESERVE SECTION

New Correspondence Course Available

The Medical Department Correspondence Course, Manual of the Medical Department, Part II, NavPers 10709, is now ready for distribution to eligible regular and Reserve officer and enlisted personnel of the Medical Department. Applications for this course should be submitted on Form NavPers 992 (Rev 10-54) and forwarded via appropriate official channels to the Commanding Officer, U.S. Naval Medical School, National Naval Medical Center, Bethesda, Md.

This is an objective type course designed to acquaint and familiarize Medical Department personnel with the procedures that must be followed in performing professional and administrative functions. The course is based on Army Regulations 40-115 which is the regulation establishing physical and mental standards for induction and enlistment to be used by the Armed Services, and on chapters 15, 23, 24, 25, and Appendix A of the Manual of the Medical Department, 1952 edition.

The course covers physical standards, methods of procedure in conducting physical examinations, and physical profiling required for original appointment and promotion to commission rank, appointment to the Naval Academy, enlistments and inductions in the Navy and Marine Corps. Included in this material are the necessary criteria concerning the use of forms and reports for the purpose of recording physical examination findings. Pertinent information relating to reports, forms and records requirements, and fiscal and property management procedures is covered by chapters 23, 24, and 25 of the Manual of the Medical Department. Sample copies of certain selected DD, NavCompt, NavExos, PHS, NavMed, and Standard Forms are included for information and

guidance. Appendix A, Treaties and Conventions, delineates the responsibilities of the personnel of the Medical Department in relation to international treaties and conventions adopted by the U.S. Government, including the handling of sick or wounded personnel and war prisoners on land and sea.

Completion of this course will enable the student to acquire essential knowledge of significant functions of the Medical Department in its relation to the Naval Establishment ashore and afloat in all of its far-flung activities and increase his or her over all efficiency.

This course consists of eight (8) objective question type assignments and is evaluated at eighteen (18) Naval Reserve Promotion and Non-disability Retirement Points. (U.S. Naval Medical School, NNMC)

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Training Courses for Naval Reserve Male Medical Department Personnel

The following 14-day active duty training courses are available for Naval Reservists during the third and fourth quarters of Fiscal Year 1956:

Insect and Rodent Control and Prevention. Courses are scheduled to convene at the U.S. Naval Preventive Medicine Unit, No. 1, Naval Air Station, Jacksonville, Fla., on the first Wednesday of each month. The 1st, 3rd, 4th, 6th, 8th, and 9th Naval Districts, and the Chief of Naval Air Reserve Training have been assigned a quota for this course. This course features a series of comprehensive lectures, demonstrations, and field experiments related to vector and pest prevention and control procedures, with special reference to naval preventive aspects. No security clearance is required.

Malariology and Insect Control. Courses are scheduled to be conducted at the U.S. Naval Air Station, Alameda, Calif., on the first and third Wednesday of each month. The 11th, 12th, and 13th Naval Districts have been assigned a quota for this training. This course presents an up-to-date review of insect and rodent control operations, presents information and techniques employed, and includes practical field experiences. No security clearance is required.

Eligible Naval Reservists who desire to attend these courses in a pay status should submit their requests to the commandant of their home Naval District at the earliest practicable date.

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Course in Medical Military Training

The twenty-fourth presentation of the Medical Aspects of Special Weapons and Radioactive Isotopes is scheduled to convene at the U.S. Naval Medical School, National Naval Medical Center, Bethesda, Md., Monday, 12 March 1956, and continue through Friday, 23 March 1955. The 1st, 3rd, 4th, 5th, 6th, 8th, and 9th Naval Districts, PRNC, and Chief of Naval Air Reserve Training have been assigned quotas for this course. All Naval Reserve Medical Department officer personnel are eligible to attend.

The first week will be devoted to the medical aspects of special weapons and radioactive isotopes with particular reference to personnel casualties from atomic explosions. In the second week, professional and administrative topics of concern to military medicine will be presented, including a symposium on Reserve medical programs.

Officers should be ordered to report to the Commanding Officer, U.S. Naval Medical School, NNMC, Bethesda, Md., prior to 1600, Sunday, 11 March 1956. It is requested that an advance copy of orders issued for attendance in this course be forwarded to the Commanding Officer, Naval Medical School at the earliest practicable date.

BOQ facilities are limited and available only on a first come, first serve basis, Security clearance is not required.

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Reserve Medical Officer Commended by the Secretary of the Navy

The Secretary of the Navy recently commended LT William Boyd Looney, MC, USNR, inactive, for outstanding achievements which characterized his tour of active duty with the Navy Medical Department from June 1952 to June 1955.

In his letter to Dr. Looney, the Secretary cited the following as particular examples of the manner in which his initiative, leadership, and skillful application of professional knowledge reflected great credit upon the Navy.

"His work on the late effects of internally deposited radioactive materials.

His work in helping to set up a functioning radioisotope laboratory at the Naval Hospital, Newport, R.I.

The many papers he presented at meetings of various medical societies.

His work with the Egyptian Government in training Egyptian scientists in the use of radioisotopes and helping to establish a radioisotope laboratory in Egypt."

Study of Fatigue in Aircrew

A paper, dated June 1955, by D. C. Fraser of the Royal Air Force Institute of Aviation Medicine, London, England, reports the result of an investigation comprising nineteen 15-hour sorties, eleven by day and eight by night. One member of each crew was tested by the writer to obtain a measure of variability of judgment ("z-function"). The same individuals were tested when fresh to obtain a control score. The results show:

(a) that there is a significant difference ($P = 0.03$) between the control and experimental scores for the day-flying group, and a more significant difference ($P = 0.007$) between the control and experimental scores for the night-flying group.

(b) The increase in z-function for the night-flying group is significantly greater ($P = 0.01$) than for the day-flying group.

(c) The variances of the experimental scores in both cases are significantly higher than those of control scores.

These results are interpreted as indicating:

(a) that a 15-hour flight in this type of piston-engined aircraft is liable to produce fatigue in the members of aircrew involved.

(b) that the fatigue involved in night flying is greater than in day flying of equivalent length,

(c) that increasing stress tends to produce increasing variability of judgment both within and between subjects.

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Paper by Air Commodore F. E. Lipscomb, Royal Navy — a Partial Review

New problems with particular emphasis on the aircrew are discussed in this paper. "Aviation Medicine is, in effect, merely the practice of environmental and occupational hygiene based on physiological and psychological principles and applied to provide safety and efficiency to those performing highly specialized tasks."

Occupational problems of aircrew: This covers such subjects as fatigue, G forces, kinetic heat, cold, escape, air blast, speed and vision, oxygen, pressure breathing, pressure suits, cabin pressurization, explosive decompression, and space travel.

Occupational problems of air traffic control: selection of aircrew is most important. Problems are increasing due to numbers of aircraft, increased landing speeds, et cetera.

Occupational problems of ground crews: subjects discussed are noise, fuels, temperature, and complicated machines. (Military Hygiene in Transition: Public Health, April 1955)

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Cold Weather Medicine

More and more emphasis is being placed on Arctic Medicine. It behooves flight surgeons to be familiar with the current literature and directives in order to advise their commands properly. There are two (2) current Confidential instructions that are timely; SecNav Instruction 3470.1 of 23 Sep 1955, Subj: U.S. Navy Policy for Arctic and Cold Weather Planning, Training, and Operations; and OpNav Instruction 3470.2 of 20 Sep 1955, Subj: U.S. Navy Arctic and Cold Weather Program.

Reference books of value in review of this program are:

(a) "Fundamentals of Arctic and Cold Weather Medicine and Dentistry," NavMed 1307

(b) "Monograph on Frostbite," by T.J. Ariev (Russian), Translation by Iser Steinman. This monograph deals with the pathological anatomy, physiology, pathogenesis, clinical considerations, prophylaxis, and treatment of cold injuries. It is published by the Canadian Research Board, and copies may be obtained by writing to the Directorate, Scientific Information Service, Department of National Defense, Ottawa, Canada. This same group has done extensive work in clothing, survival, and acclimation studies. Some of the best articles on this subject are: (1) Arctic Suit - Ground Crew Trials, X-51 No. PCE 4-51; (2) Winter Operation, Final Report, Vol. XVII; (3) W.E.E. Report No. PCE 2-51 (Clothing and Survival) (4) DRNL Technical Paper, No. 16 (Skin Sensitivity and Acclimatization)

Other information on the subject of Arctic Medicine can be obtained from reviewing the following Navy Department publications. These may be obtained by writing to the Office of the Chief of Naval Operations (Op-03A3) Navy Department, Washington 25, D. C.: (1) Arctic Sense, NavAer 00-80Q-13 (2) Aleutian Sense, NavAer 00-80Q-11; (3) Carrier Cold Weather Flying Sense NavAer 00-80Q-32; (4) Cold Weather Medicine (Series of Operational Briefs) March 1954; (5) Low Temperature Sanitation (Series of Operational Briefs) June 1954.

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Training Leading to Designation of Naval Aviator – Opening for Flight Surgeon

In 1956, there will be an opening for a flight surgeon to take advanced training leading to the designation of Naval Aviator. Applications for such training are requested by the Aviation Medicine Division, Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C., to be submitted by all interested flight surgeons who are physically qualified in accordance with the Manual of the Medical Department, Chapter 15-67.

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Course in Aviation Medicine

The Bureau of Medicine and Surgery announces that a class in Aviation Medicine will convene at the U.S. Naval School of Aviation Medicine, Naval Air Station, Pensacola, Fla., on 1 October 1956. The course consists of approximately 6 months of academic instruction in aviation medicine and flight indoctrination training, and leads to the designation of successful candidates as U.S. Naval Flight Surgeons.

The class will be limited to 30 students and is open to medical officers of the Regular Navy and Naval Reserve in the ranks of Lieutenant Commander or lower.

Medical officers who wish to apply for the course in Aviation Medicine should do so by official request via the chain of command to the Chief of the Bureau of Medicine and Surgery which shall contain this service agreement: "If this request is approved, I agree to remain on active duty for one (1) year upon completion of the Course in Aviation Medicine, or for six (6) months beyond my currently obligated service, whichever is longer."

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Effect of Reduced Barometric Pressures on Exposure to High Temperatures

Effects of exposure to heat are considerably less severe when barometric pressure is simultaneously reduced. A series of experiments has been completed in which test subjects were exposed to various combinations of heat, simulated altitude, air motion, and humidity. The beneficial effect of reduced pressure on body temperature and rate of sweating is striking and correlates well with subjective sensations. It is postulated that the reduced pressures influence primarily the diffusional component of skin water loss (the cutaneous component of insensible perspiration). (Activity Report from AeroMedLab, WADC, Wright-Patterson AFB, Ohio, 26 September 1955)

Aerial Delivery of Whole Blood

Reports from Korea have indicated that aerial drop delivery of whole blood is feasible but must be further developed before its use is medically acceptable. Personnel of the Aero Medical Laboratory and the Parachute Branch, Equipment Laboratory, in an effort to perfect this technique, have conducted experiments under conditions designed to approximate combat conditions.

Hemolysis assays and osmotic resistance tests were conducted to determine erythrocyte susceptibility to single high G shocks produced by an air gun. Subsequently, drops of bottled water were made to determine the safe limits for bottle breakage. Once these guidelines were established, drops ranging from 300 to 500 feet altitude at 110 knots were made using bovine blood. Various impact velocities (up to 105 ft/sec) were accomplished with the use of different types of stabilization streamers or drogue chutes. Hemolysis and fragility assays were made immediately after the runs to evaluate the effects of such exposures. Ground tumbling proved to be especially hazardous to both the blood and the bottle. Further tests are planned using a Small Stores Container. (Activity Report, AeroMedLab, WADC, Wright-Patterson AFB, Ohio, 22 September 1955)

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Do You Know All About Protective Equipment?

Crew members in high performance aircraft are currently using several different types of personal and oxygen equipment. As the Flight Surgeon, are you familiar with these items? Are pilots using them properly? Do your units have the proper equipment to accomplish their mission?

This Division has often stated that the primary mission of the flight surgeon is to insure that the human component of the man-machine complex, represented by aircrew and aircraft, is maintained at peak efficiency. One prerequisite for this is to provide combat crews with adequate protection against those environmental hazards inherent in military flying. Protecting pilots against these hazards is accomplished by developing protective equipment and teaching them how to use this equipment.

The latter point is a particular responsibility of flight surgeons and aviation physiology training officers. In order to accomplish this, it is essential that they know about the different types of equipment, their capabilities, descriptions, et cetera. Practitioners of aviation medicine should be familiar with personal equipment, oxygen equipment, and survival training. In order to facilitate familiarity with currently used, and some developmental items of personal and oxygen equipment, a compendium has been collected and printed as an attachment to this issue of the TAC Surgeon's

Bulletin. It is recommended that this list be kept immediately available for ready reference and study. Up-to-date changes should be made whenever they come to your attention.

Flight surgeons will constantly find need for knowledge of many of these items, whether in discussion with crew members, investigating accidents, or attempting to develop new or improved items. To do your job better, know your personal and protective equipment!

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BuMed Instruction 3740.1 16 December 1955

From: Chief, Bureau of Medicine and Surgery
To: All Stations Having Physiology Training Devices and/or Ejection Seat Trainers

Subj: Aviation Physiology Training Program; augmentation of current instruction in

Ref: (a) OpNavInst 3740.3A, Subj: Aviation Physiology Training Program

This instruction promulgates professional guidance for necessary physiological training required for Service Groups II and III pilots. It further augments instructions to flight surgeons in carrying out the provisions of OpNav Instruction 3740.3A.

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Aircrew Effectiveness

The following case reports are extracted from Aircrew Effectiveness Reports, U.S. Air Force:

"A pilot, burned in an aircraft accident at one base, reported that medical personnel had difficulty removing his G suit because of wires included in construction of the suit. It was recommended that wire cutters be included in crash equipment.

Comment: This is an excellent suggestion; however, substitutes for the wire cutters can be utilized, particularly large, heavy bandage scissors with a wire cutting portion. These same heavy duty scissors can be used in a variety of ways, such as cutting parachutes, straps, belts, shoes, et cetera. A satisfactory pair of scissors is included in Air Force medical equipment, nomenclature: Scissors, angular, heavy, 8", stock no. 6515-336-8400."

"On 28 October 1955, a pilot on flying status presented himself with symptoms suggestive of a ruptured peptic ulcer. Upon operation, an anterior perforation of the first portion of the duodenum was demonstrated and surgically closed with a plug of omentum. This officer made an excellent and uncomplicated recovery.

Following surgery, it was ascertained that the officer was on phenylbutazone therapy and in the three weeks immediately prior to surgery had received this drug in the following amounts: 200 mg., 3 times a day for one week, and 100 mg., 3 times a day for two weeks. This therapy was prescribed at another military treatment facility apparently for a rheumatoid arthritis of the spine. No evidence of duodenal deformity or ulcer could be demonstrated by a GI Series accomplished early in December. It would appear that the perforated duodenal ulcer in this case was the result of the phenylbutazone therapy."
(Tactical Air Command Surgeon's Bulletins, Vol. 5, No. 9, September 1955, and Vol. 6, No. 1, January 1956)

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Historical Facts of Interest for January and February

January 1

1914 America's first regularly scheduled airline started operation across Tampa Bay between St. Petersburg and Tampa, Fla., with one Benoist flying boat and Tony Jannus as pilot. The operation lasted three months.

January 3

1949 Bill to speed guided missile research was introduced in the House by Representative Carl Vinson of Georgia.

January 4

1948 University of California announced completion of pilot model for world's first low-pressure supersonic wind-tunnel.

January 9

1917 Captain H. H. Arnold was relieved from duty with the Aviation School at San Diego and ordered to Panama to organize and command the 7th Aero Squadeon.

January 12

1948 Northrop Aircraft Company announced that rocket-powered test vehicles at Muroc Air Base, Calif., had attained a speed of 1019 mph.

January 18

1905 The Wright Brothers first opened negotiations with the United States Government to build an airplane for the Army.

January 19

1918 U S. School of Aviation Medicine began operations under Major William H. Wilmer, Signal Corps, at Hazelhurst Field, Mineola, N. Y.

January 22

1948 The Navy announced that it was able to launch V-2's from carriers.

January 27

1911 At an Aero Club exhibition in San Diego, Lt. T.G. Ellyson, USN, Curtiss student, took off in a Curtiss "grass cutter" plane (a ground plane, not supposed to fly) to become the first naval aviator.

January 30

1911 J.A.D. McCurdy, in the longest over-water flight to date, flew from Key West, Fla., to a point some 10 miles from Havana, where he was picked up by a Navy torpedo boat.

1948 Orville Wright died in Dayton, Ohio, at the age of 76.

January 31

1914 During the month the first U.S. Naval Air Station was established at Pensacola, Fla.

February 4

1948 Navy and Air Force air transport systems were consolidated into Military Air Transport Service under USAF.

February 6

1950 The Defense Department announced test-firing of Navy's "Mighty Mouse," the first successful "air-to-air rocket."

February 7

1918 The Joint Army and Navy Technical Aeronautical Board (JAN TAB) passed resolution on Instrument Standardization in Army and Navy planes for incorporation in general specifications.

February 8

1950 Navy Neptune bomber set a distance record for carrier-launched planes, 5156 miles nonstop, from the USS CORAL SEA (CVA-43) in the Atlantic to San Francisco in 25 hours 59 minutes.

February 9

1916 Cpl A.D. Smith set a world seaplane duration record of 8 hours 42 minutes in a Martin S-Hall Scott 125, at San Diego.

February 12

1935 The USS MACON crashed at sea off the coast of California.

February 13

1917 At Pensacola, Fla., Capt. Francis T. Evans USMC, looped and spun a seaplane for the first time in aviation hsitory.

February 16

1914 Seaplanes and flying boats were classed as "vessels" by the Department of Commerce.

February 17

1911 Glenn Curtiss flew a Curtiss seaplane from North Island to the battleship PENNSYLVANIA in San Diego harbor, alighted alongside and was hoisted aboard by a launch crane. Later, he took off from the water and returned to North Island. This was the first seaplane demonstration with the U.S. Navy.

1912 The first pilot physical examination was published by the U.S. Army.

February 23

1911 The first Curtiss amphibian was demonstrated at North Island, San Diego, by Glenn H. Curtiss, taking off and alighting on land and water.

1912 The first official recognition of the rating "Military Aviator" appeared in War Department Bulletin No. 2.

February 27

1911 At North Island, San Diego, Lt. T.G. Ellyson USN flew with Glenn Curtiss in Curtiss' seaplane to become the first seaplane passenger.

February 28

1917 For the first time in the United States, the human voice was transmitted by radio telephone from airplane to ground at San Diego.

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U.S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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The printing of this publication has been approved by the Director of the Bureau of the Budget, 16 May 1955.

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DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON 25, D. C.

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